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Cystocephalus Rail., 1895, not Léger, 1892.
Diceras Rud., 1810, not Lam., 1805.
Dipeltis Cobb, 1891, not Pack., 1885.
Discophora Vill., 1875, not Boisd., 1836.
Eucamptus Duj., 1845, not Chevr., 1833.
Eurystoma Marion, 1870, not Raf., 1818.
Fimbria Cobb, 1894, not Bohadsch, 1761.
Hoplocephalus Linst., 1898, not Cuv., 1829.
Leptoderes Duj., 1845, not Serv., 1839.
Litosoma Ben., 1873, not Douglas & Scott, 1865.
Mitrephorus Linst., 1877, not Schoenherr, 1837.
Oxysoma Schneid., 1866, not Gerv., 1849.
Oxystoma Buetschli, 1874, not Dum., 1806.
Oxyurus Lam., 1816, not Raf., 1810.
Paradoxites Lindem., 1865, not Goldf., 1843.
Pelodytes Schneid., 1860, not Fitz., ante 1846.
Pterocephalus Linst., 1899, not Schneid., 1887.
Ptychocephalus Dies., 1861, not Agassiz, 1843.
Rhabdogaster Metschnikoff, 1867, not Loew., 1858.
Rhabdonema Leuck., 1883, not Kuetzing, 1844.
Rhabdonema Perr., 1886, not Kuetzing, 1844.
Rhytis Mayer, 1835, not Zed., 1803.
Spilophora Bast., 1865, not Bohem., 1850.
Spinifer Linst., 1901, not Raf., 1831.
Spira Bast., 1865, not Brown, 1838.
Spirura Dies., 1861, not E. Bl., 1849.
Trichina Owen, 1835, not Meig., 1830.
Trichoderma Greef, 1869, not Steph., 1835.
Trichodes Linst., 1874, not Herbst, 1792.
Triodontus Looss, 1900, not Westwood, 1845.
Tropidurus Wiegm., 1835, not Neuwied, 1824.
Tropisurus Dies., 1835, not Neuwied, 1824.

GORDIACEA:

Paragordius Montgomery, 1898, = Camerano, 1897.

ACANTHOCEPHALA:

Arhynchus Shipley, 1896, not Dejean, 1834.
Neorhynchus Ham., 1892, not Sclater, 1869.

11. The names in question are published for the information of all persons interested. Objection to the proposed action should be filed with the undersigned secretary not later than January 1, 1913, together with ground upon which objection is based.

12. The above names will be forwarded immediately to the International Commission on Medical Zoology, and to the special subcommittees in the groups in question for special report.

13. The list will be forwarded about July 1, 1912, to the International Commission on Zoological Nomenclature, and the secretary expects to call for a vote on these names at the next regular meeting of the commission, in the summer of 1913.

14. The secretary takes this opportunity to state that his policy is to bring into the list a number of names upon the adoption of which no difference of opinion seems to exist, and to reject a large number of preoccupied names, before he submits for study the names upon which differences of opinion are expressed by authors.

C. W. STILES,
on Zoological Nomenclature
Secretary International Commission

SPECIAL ARTICLES

ON THE ORIGIN OF A PINK-EYED GUINEA-PIG WITH COLORED COAT[1]

THE rediscovery of Mendel's law in 1900 with the immediate and striking verifications which it received from both animal and plant breeders gave great impetus to the mutation theory of De Vries, and secured wide acceptance of the idea advanced earlier by Galton and Bateson that new organic forms arise only as discontinuous variations, in the production of which continuous or fluctuating variations have no part. An extreme form of this idea has been ably advocated by Johannsen in his pure-line conception of heredity. This has met with a reception so hearty that it is now endangered chiefly by the zeal of its adherents, who seem to some of us to be carrying the doctrine to ridiculous lengths. They can see nothing but pure lines in heredity of any sort; selection is wholly rejected except as an instrument for the sorting out of genes. Possibly this is the correct interpretation of the action of selection, but if so it will be found necessary to invoke the existence of multiple and subsidiary genes to such an extent that continuous and discontinuous variation will become practically indistinguishable. I am inclined, therefore, to question the validity of

[1] In the investigation described in this paper the author was aided by a grant from the Carnegie Institution of Washington, for which grateful acknowledgment is here made.

a hypothesis which has to be carried to such lengths, and I think this view is shared by many whose experience in breeding work has been very extensive.

Webber has somewhere expressed the view, I am sure verbally and I think also in his publications, that sport variation is more likely to occur in connection with repeated selection and in the same general direction as the selection. This view, if correct, is highly important. A case which may be considered to support it has recently occurred in the breeding experiments in progress at the Bussey Institution.

In mice, rabbits and cats, a dull black variety occurs which is known by fanciers as blue. The optical effect called blue is in such cases the result of a diminished number of black pigment granules in the fur. Fanciers have long desired to obtain a similar variety among guinea-pigs, but thus far without much success. Some eight years ago I became interested in the problem and began experiments which have continued to the present time. Knowing that Andalusian blue fowls are heterozygotes of black and white, I tried to produce a similar modification in guinea-pigs by cross-breeding. I found that crossing black with white gave results which varied in character with the white strain used. A sooty or "Himalayan" albino strain which by other experiments was shown to transmit intense black pigmentation produced no diminution of black in the heterozygotes. A very lightly pigmented albino which was found to transmit light yellow ("cream") in crosses produced heterozygotes with a much duller black, but not of the desired blue tone. In other words, albinos in crosses with black were found to breed exactly like the colored strains from which they were extracted. As the cross with a cream strain had produced the lightest black animals thus far obtained, I confined my further experiments to crosses with this cream strain or with albinos derived from it. In each generation the lightest heterozygous blacks were crossed with the lightest creams (or albinos). By this process a very considerable reduction in the amount of pigment in the fur was secured. The hairs of the black individuals were now dull black at the tip only; elsewhere the hair was sooty cream colored, indicating a great quantitative reduction of the pigments, both black and yellow. These peculiar black individuals we may for convenience henceforth call "blue." Blue parents mated with cream ones have in the past two years produced 17 blue, 15 cream and 13 white young, the Mendelian expectation being 3 blue: 3 cream: 2 white, if all parents are heterozygous for albinism. In a mating of this sort a few weeks ago (December 2, 1911) a blue mother gave birth by a cream male to a female young one which closely resembles an albino, its coat being in general white and its eyes pink, but on the right side of its head and on the hips are spots of blue. As in the pink-eyed mouse, the color of the fur is decidedly pale. In the iris of each eye may also be seen a faint pigmented streak. It is noteworthy that the pink-eyed mouse also has traces of pigment in its eyes.

The genetic behavior of pink-eyed mice shows that the pink-eyed variation is due to modification (or partial loss) of some factor necessary for the production of the full pigmentation. This factor, however, is not the color factor (*C*) which albinos lack, nor the yellow (Y), brown (Br) or black (B) factors, nor yet the agouti (A) factor, since with each of these and without it the pink-eyed variation may form distinct combinations. For the same reason it can be shown to be distinct from the condition of spotting with white.

It is noteworthy that the race of guinea-pigs in which the pink-eye variation has appeared is one in which a reduction of the amount of pigmentation was being attempted by a systematic selection, and was being actually obtained. The pink-eye variation would seem, therefore, to be merely a particular long step in the general course of modification which this race was undergoing directed by artificial selection. If so, it has probably been brought about by the modification of the *same* color factor or factors that have undergone modification in the blue race. This idea

will be put to an experimental test. If found correct, the suggestion will offer itself that a causal relationship may possibly exist between the *little* steps taken under selection, and the longer one appearing as a mutation.

The variation described in this paper made America on a collecting expedition. My associate, Mr. C. C. Little, was then in charge its appearance during my absence in South of the experiments. He at once recognized the importance of the variation from a theoretical standpoint and has given especial care to its preservation. For this I wish both to thank and to congratulate him. A less discriminating observer might easily have mistaken this animal for an albino with soiled fur.

W. E. CASTLE

LABORATORY OF GENETICS,
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FOREST HILLS, MASS.,
February 8, 1912

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
SECTION B—PHYSICS

THE annual meeting of Section B of the American Association for the Advancement of Science was held with the American Physical Society at the Bureau of Standards, Washington, December 27–30, 1911. Four forenoon sessions and three afternoon sessions were held. Of these, two were "general interest" sessions in charge of the officers of Section B and five were occupied with research papers, in charge of the American Physical Society. In all seventy-four papers were presented and one symposium held. Eight papers were presented by title only.

The presiding officers were Professor R. A. Millikan, vice-president of Section B, and Professor W. F. Magie, president of the Physical Society. At a short business session of the section Professor Theodore Lyman was elected to represent the section on the council, Professor C. E. Mendenhall a member of the sectional committee (for five years) and Professor F. A. Saunders a member of the general committee.

All sessions were held in a large laboratory of the Bureau of Standards. The attendance at several was about two hundred and for most others exceeded one hundred. It was probably the largest and most representative gathering of physicists ever held in America. In each of the three days when two sessions were held the scientific staff of the bureau generously provided a fine lunch for all in attendance.

The address of the retiring president of the association was of special interest to physicists this year. It was given on Wednesday evening in the assembly hall of the new National Museum by Professor A. A. Michelson on the subject "Recent Progress in Spectroscopic Methods."

On Friday evening a subscription dinner was given by the Philosophical Society of Washington in honor of Section B and the American Physical Society at the Shoreham Hotel. This was attended by about one hundred and was a most delightful occasion. Dr. E. B. Rosa, the retiring vice-president, acted as toastmaster and Professor A. A. Michelson, the retiring president of the association, was among the guests of honor.

Among the members of the association who were elected fellows by action of the council at this meeting are the following members of Section B: H. A. Wilson, Frank Wenner, Fay C. Brown, E. A. Harrington and W. J. Fisher.

The officers for the next annual meeting, to be held in Cleveland during the convocation week of 1912–13, are as follows:

Vice-president and Chairman of Section B—Professor A. G. Webster, Clark University.

Retiring Vice-president—Professor Robert A. Millikan, University of Chicago.

Secretary—Dr. W. J. Humphreys, U. S. Weather Bureau, Washington.

Member of Council—Professor Theodore Lyman, Harvard University.

Sectional Committee—R. A. Millikan, A. G. Webster, W. J. Humphreys, A. P. Carman, G. F. Hull, E. L. Nichols, A. Zeleny, C. E. Mendenhall and the president and secretary of the American Physical Society.

The two general-interest sessions in charge of Section B were held on Thursday, December 28. At the morning session Professor W. F. Magie, of Princeton, delivered the presidential address of the American Physical Society on "The Primary Concepts of Physics." This is given in full in the February 23 issue of SCIENCE. The remainder of the morning session was devoted to a symposium on "The Ether," led by Professor A. A. Michelson. Professors A. G. Webster, E. W. Morley, W. S. Franklin, D. F. Comstock and G. N. Lewis took part in the discussion. The significance and place of the principle of relativity was of course given principal attention and some difficulty was